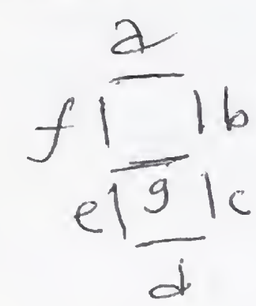
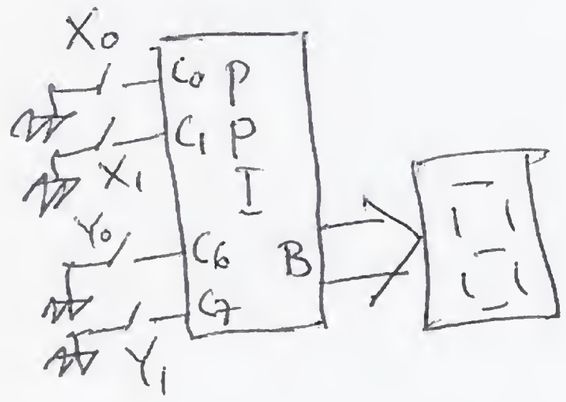
		g	f	e	d	c	b	a
(79)	⇐ E =	1	1	1	1	0	0	1
(68)	⇐ L =	0	1	1	1	0	0	0
(77)	⇐ A =	1	1	1	0	1	1	1

Q1. A 2-bit number X is represented by 2 switches connected to port PC0 and PC1 of the PPI.
Another 2-bit number Y is represented by 2 switches connected to port PC6 and PC7.
A common cathode 7-segment display is connected to port B of the PPI.
Write an optimum program to: **display E when X = Y**
display L when X < Y
display A when X > Y



→ Common Cathode → "1" turns on




```
        MOV  DX, OFFE6  ; control reg. address
        MOV  AL, 89     ; PC as i/p PB o/p
        OUT  DX , AL    ; initialize PPI
BACK :  MOV DX, OFFE4   ; Port C address
        IN   AL, DX     ; Read switches
        MOV  AH , AL    ; save a copy
        AND  AL , 03    ; clear C2 to C7
```

bits → 000000 X1X0 (AL)

```
        MOV  CL , 6
        SHR  AH , CL    ; now AH = 000000Y1Y0
        MOV  DX , OFFE2 ; PORT B
        CMP  AL , AH
        JE   EE
        JB   LL
        MOV  AL , 77    ; F code
        OUT  DX , AL
NEXT:   JMP  BACK
EE:     MOV  AL , 79    ; E code
        JMP  NEXT
LL :    MOV  AL, 68     ; L code
        JMP  NEXT
```